Embedding Information and Communication Technologies in the Early Childhood Classroom

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New technologies and the pace of change in modern society mean changes for classroom teaching and learning. Information and communication technologies (ICTs) feature in everyday life and provide ample opportunities for enhancing classroom programs. This article outlines how ICTs complement curriculum implementation in one Year two classroom. It suggests practical strategies demonstrating how teachers can make ICTs work for them and progressively teach children how to make ICTs work for them.

In this year 2 classroom, the *ICTs process* begins with explicit instruction on basic computer skills beginning with turning on the computer and continuing through a series of specified lessons to demonstrate tasks such as opening programs, inserting text and media, saving and opening files, taking photos and taking video footage. Each explicit learning experience is followed by *play and explore* experiences where students independently practise, investigate and share skills. The teacher and peers provide guidance when required during these sessions.

Once students have grasped the basic skills which in our experience, occurs quite rapidly, students are equipped to incorporate ICTs into their learning process across the curriculum. Teachers are also equipped with a resource that can be utilised as a teaching and assessment tool. The basic skills lay the foundations for introducing new skills and ICT resources enabling children to access, create and communicate information and ideas. Children use ICTs independently and collaboratively to solve problems, investigate phenomena and/or produce multimodal projects.

Digital writing activities are an ideal way to embed ICTs into the early childhood classroom. One strategy is to use a program such as Photobooth, or digital cameras and/or flip cams so that students photograph a series on a topic that interests them. They first plan their photos and story outline on a *storyboard* using drawings and captions and then proceed to taking the photos. Storyboards provide a type of timeline for the ICTs process as well as an outline for their story. The photos are placed within the writing program on the computer such as ibook creator or MS word. The photos provide a guide for the students to produce their piece of writing.

A practical example of the *ICTs process* is laid out below. It describes an assessment activity which required students to produce a set of instructions as procedural text and ultimately produce a Power Point presentation.

- Students first drafted their individual instructions
- Students used digital cameras and *Flip Cams* to photograph their subjects and film each other reading their individual instructions. In each case, the children were taught explicitly about equipment usage and were then provided with time so that they could practise skills and work collaboratively on designing and creating their project. This practice time is play-based which allows students the freedom to make choices and be creative.
- The photographs and films were then uploaded onto computers by the students.

- The students then edited their work and made decisions about their final product. Again, the editing process is explicitly taught and students are scaffolded through the process by the teacher, before they move to edit their work independently. The editing process allows students to revisit their work, revise content and decide which photos and movie clips to include.
- Students proceeded to create their PowerPoint presentation. The process was firstly scaffolded by the teacher before the children worked independently embedding photos and videos to create their final product.

The *ICTs Process* can be transferred across the curriculum. So for example students might film science investigations (consider using *Gawker* Free time lapse camera app which is great for Science) or conduct interviews, or even create poster presentations (check out Comic Life). Other activities include: creating music and sound (use Garage Band); developing critical literacy skills through the exploration of websites; creating websites and blogs (try iweb); using the Interactive White Board as a catalyst to produce comments or reflections from students (check out the internet resource – *wall wisher*); engaging with web tools which include charts and graphs (try inspiration and kidspiration); or engaging in digital storytelling, web quests and so on.

Understandably, the activities described here may appear time consuming. However, when integrated into the curriculum, they enhance learning processes and products as well as provide a space for consolidation for learning across other lessons and units. In this year 2 classroom, rotational activities, computer lab time plus a weekly half hour media focused lesson have provided substantial time for us to incorporate ICTs.

Students in this classroom access tools which suite their needs for an activity: visual, audio, read/write, kinaesthetic. Web-based resources provide a multitude of choices. As well, ICTs act as a medium for home/school connections. Students enjoy sharing their knowledge and projects with family members at home and at class functions. They love to teach their parents!

We have found that using ICTs as a teaching/learning tool are highly motivating for students. ICTs equip students with multimodal ways of learning and producing. They are a confidence booster for all students but particularly those who might be reluctant to participate in solely traditional ways of working. This confidence provides impetus for students to produce outcomes involving both traditional and digital print literacies. Students, for the most part, remain on task. They participate in peer tutoring and collaborative work and we have found that the children actively encourage one another.

ICTs provide a valuable resource to incorporate into classroom programs. We encourage teachers to network with others to share and exchange ideas. We hope that ICTs find a significant place within all classrooms and help to engage teachers and learners on new and exciting levels.

Bridget McKenzie is a teacher at Waterford west State School. This year she teaches year 2, and has been particularly interested in reflecting upon her pedagogy, and working to include more ICT and media arts into the curriculum in her room.

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